UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,247	09/26/2003	Charles M. Milliren	34563US1	8704

116 7590 04/12/2005

PEARNE & GORDON LLP
1801 EAST 9TH STREET
SUITE 1200
CLEVELAND, OH 44114-3108

EXAMINER	
VO, HAI	

ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 04/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/672,247	MILLIREN ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1014, 0907, 0120*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Objections

1. Claim 5 is objected to because of the following informalities: The term "melded" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, and 6-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Donzis (US 4,513,449) as evidenced by Dera et al (US 4,101,983). Donzis teaches a structure comprising a foam substrate and a fabric having a polyurethane coating that encloses the foam substrate (figure 4 and column 7, lines 55-60). The polyurethane coating is a non-porous layer which would inherently have 0% porosity. The foam substrate is a flexible, open cell polyurethane foam (column 5, lines 47-48). The foam substrate is an open cell polyurethane foam having a density of from 3 to 16 lb/ft3 (column 5, lines 5-6, 29-30). Dera evidences that the semi-rigid polyurethane foam having a density of 2 to 7 lb/ft3 (column 46-47). Therefore, Donzis discloses a semi-rigid open cell polyurethane foam. Donzis discloses the structure wherein the foam substrate

made from a closed cell polyurethane foam (column 8, lines 33-35). The viscoelastic foam as defined by the present invention has a density of from 73 to 135 kg/m3 or 5 to 8lb/ft3. Likewise, it is clearly apparent that Donzis discloses the viscoelastic foam having a density within the claimed range. Since Donzis uses the same material to form the substrate as Applicants, it is not seen that the glass transition temperature could have been outside the claimed range. The same token is applied to the shape recovery of the open cell polyurethane foam. Like material has like property. This is in line with ***In re Spada***, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. The fabric having a polyurethane coating comprises a plurality of vent holes 32 along the edge 30 (figure 4). Likewise, the structure is less rigid adjacent the zones that are closed to the edge than those that are away from the edge. Figure 9 shows that the fabric having the polyurethane coating and the foam substrate are attached to each other to form into one piece. Likewise, the fabric having the polyurethane coating is formed integrally with the foam substrate. The fabric is heat laminated to the foam substrate. Likewise, the structure is seamless. Accordingly, Donzis anticipates the claimed subject matter.

4. Claims 1-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Krent et al (US 5,423,087) as evidenced by Dera et al (US 4,101,983). Krent teaches a body protective device comprising a foam substrate and a cap layer of a thermoplastic material at least partially enclosing the foam substrate (figures 8

and 9). The cap layer is a non-porous layer which would inherently have 0% porosity. The foam substrate is a flexible, open cell polyurethane foam having a density from 2 to 4 lb/ft3 (column 7, lines 7-8). Dera evidences that the semi-rigid polyurethane foam having a density of 2 to 7 lb/ft3 (column 46-47). Therefore, the flexible open cell polyurethane foam disclosed by Krent is also a semi-rigid open cell polyurethane foam. Krent discloses the substrate comprising a closed-cell polyethylene foam having a density of 6 to 11 lb/ft3 (column 7, lines 14-16). The viscoelastic foam as defined by the present invention has a density of from 73 to 135 kg/m3 or 5 to 8lb/ft3. Likewise, it is clearly apparent that Krent disclose the closed cell, viscoelastic foam having a density within the claimed range. Since Krent uses the same material to form the substrate as Applicants, it is not seen that the glass transition temperature could have been outside the claimed range. The same token is applied to the shape recovery of the open cell polyurethane foam. Like material has like property. This is in line with ***In re Spada***, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. The cap layer has a plurality of vent holes 24 (figures 8 and 9). The cap layer is attached to the foam substrate by molding (column 7, lines 55-65, and column 10, lines 7-20). Figures 8 and 9 show that the cap layer and the substrate are attached to each other to form into one piece. Likewise, the cap layer is formed integrally with the foam substrate. Figures 3 and 14 show that the module 14 has the central zone provided with the holes 24 whereas the outer zone has no holes. Likewise, the

module is more rigid adjacent the outer zone than adjacent the central zone. The skin is heat laminated to the foam substrate. Likewise, the module is seamless. Accordingly, Krent anticipates the claimed subject matter.

5. Claims 1, 4, 5, and 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Morimoto et al (US 2002/0168496). Morimoto teaches a vacuum insulation material comprising a foam substrate and a skin enclosing the foam substrate (figure 4b). The skin and the substrate are formed from polyurethane. The skin has a density of about 1 to 1.3 times as high as that of the core portion [0059]. Likewise, the skin and the substrate are formed integrally. Figure 5 shows that the PET film layer is attached to the foam substrate by heat bonding. The PET film is heat laminated to the foam substrate. Likewise, the vacuum insulation material is seamless. The substrate is an open-cell polyurethane foam having a density from 100 to 150 kg/m3 within the claimed range. The polyurethane foam has an open cell greater than 90%. Likewise, the foam has partially closed cells. Since the viscoelastic polyurethane foam has a density of 104 kg/m3 +/- 30%, it is the examiner's position that Morimoto discloses the viscoelastic polyurethane foam. Accordingly, Morimoto anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Donzis (US 4,513,449) as evidenced by Dera et al (US 4,101,983). Donzis does not teach the fabric with the polyurethane coating is bonded to the foam substrate by molding. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the structure of Donzis is identical to or only slightly different than the claimed protective layer prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The structure comprises a foam substrate and a fabric having a polyurethane coating that encloses the foam substrate (figure 4 and column 7, lines 55-60). The Donzis reference either anticipates or strongly suggests the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Donzis.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

Hai V.
Tech Center 1700